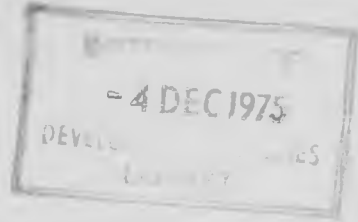




**INSTITUTE OF ADULT EDUCATION  
UNIVERSITY OF GHANA**



**I.A.E. MONOGRAPHS**

no. 5

**No. 5: Awudome Rural Development  
Project: An Evaluation.**

**Jette Bukh**

**Published by  
The Institute - Legon - Accra - Ghana**

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## Preface

### INSTITUTE OF ADULT EDUCATION MONOGRAPHS

This is one of a new series of Monographs launched by the Institute at the time of its 25th Anniversary celebrations - October-December 1973. The series is meant to circulate (among research students, university staffs, and other interested persons) a body of writing on various subjects which is always being put out by members of academic institutions like the IAE but seldom getting published for general circulation.

By the establishment of this series we hope we have embarked upon a corrective process, and that these monographs will serve the purpose of supplying a quantity of background material to many research subjects. They will not all, or always, be learned papers according to the strict academic definition of the term; they are not planned to be such, though some will in fact be learned and/or scholarly; many will be purely narrative or descriptive. Nor are they issued in strictly chronological order: No.1, for instance, carried the review history of the Institute, was written specifically for the celebrations but published after No.2, which was written in 1968.... The aim of the series is thus simply to release it as useful, helpful academic background material, for those who will find it so.

Titles in the series so far are the following:  
"Twenty-Five Years of University-Based Adult Education in Ghana: A Review" (No.1) by K.A.B. Jones-Quartey; "Report on Dag Hammarskjöld Seminar on the Use of Correspondence Instruction in Adult Education" (No.2) by E.A. Haizel, E.A. Mensah

and J. Opare-Abetia; "Exploring the Role of Literary Clubs and Youth Movements in Ghana Politics in the 1930s" (No.3) by Kwa O. Hagan; "The Role of Local Government in Nation Building" (No.4) by J.K. Ansere; "Awudome Rural Development Project - An Evaluation" (No.5) by Jette Bukh (Miss); "The Economic Power of Co-Operatives in Developing Countries" (No.6) by A.M. Kusi; "Mass Education and Community Development in Ghana - A Study in Retrospect, 1943-1968" (No.7) by Kwa O. Hagan; "Joint Report on 1971 Third Conference of African Adult Education Association (AAEA) and First Africa Regional Meeting of International Congress of University Adult Education at University of Dar es Salaam, Tanzania" (No.8) by J. Opare-Abetia; "Oxford University and an Adult Education Experiment in Ghana, 1947-1950" (No.9) by Kwa O. Hagan.

All the authors named above are members of staff at the Institute, and the first dozen or so of these booklets will all probably be written by such staff members, or by research personnel even if only temporarily attached to the Institute. But in time the series could well carry titles by outsiders, when and as suitable and opportune.

K.A.B. Jones-Quartey  
DIRECTOR

December 1973  
Legon

This is intended only as a brief comment on the Institute of Adult Education's Rural Development Project in the Awudome Area, since at this stage of my research I have not yet started the processing of the data, which concerns problems of how to support the development of farming in the area. These comments are based, therefore, only on the general impressions I have received through my stay in Tsito over a six-month period, three of which were devoted to daily interviewing of local farmers. Special interviews were conducted with those farmers in Tsito who had participated in the One-Day School of 6th December 1972.

The evaluation is presented in the hope that all those people from whom I have learned everything set out in this paper - farmers in Tsito, Institute staff at Tsito and Legon, and many more - will receive my conclusions in the spirit in which they are offered, namely in wishing the project to achieve a real success.

Fortunately, it is not necessary in a Ghanaian context to have to convince anybody about the importance of the rural areas in national development, since this is foremost in people's minds. It is therefore clear that the project has a very valuable role to play, and can fill the gap which exists due to the altogether insufficient scale of public extension services in the area.

JETTE BUKH  
10th December, 1973

## FOREWORD

The Institute of Adult Education has, since its inception, shown concern for rural development in Ghana through its leadership training programmes and field surveys of rural areas. However, it was not until 1970 that it started the Awudome Rural Development Project as an experimental adult education programme for rural development.

Like many discerning observers of the rural scene in Africa and other developing areas, the Institute is of the opinion that "a programme for raising the level of living of the rural population would need to be approached in a comprehensive and integrated manner, in contrast to the ad-hoc methods of the past. Even to achieve the narrow goal of increase in the volume of physical production in the rural areas, governments would have to be committed to a number of ancillary measures, because economic development is a complex process involving many inter-dependent variables". Thus the Institute has adopted an approach which will relate to the many facets of rural development.

Notwithstanding this guiding principle, the Institute believes a rural development programme must be based on the economic potentialities of an area. It is in view of this assessment that the Institute chose agricultural extension as the core of the Awudome Rural Development Project, because like the pioneers of the Antigonish Movement it believes a rural programme in "adult education, especially that which concerns primary producers and workers, should begin with economic questions, and that the economic approach to social progress is most logical and active".

The importance of rural development to a developing country like Ghana cannot be over-emphasized. In a welcome address to the participants of the Institute's 1971-72 Annual New Year School on the theme "Rural Development Projects, Challenges and Strategies", the Vice-Chancellor of the University of Science and Technology, Kumasi, Dr. Evans-Anfom, among other things made the following remarks:

The problems which relate to rural development are many and inter-related - employment, education, agriculture, health, population control and a number of others. Ghana is predominantly a rural country. The 1970 Population Census indicates that about half of the population live in settlements, each containing less than 5,000 inhabitants. In some regions such as the Upper Region, the percentage in places with less than 1,000 persons is as high as 80%.

The labour force structure also reflects the rural nature of the country. Over 60 per cent of labour is engaged in agriculture. Of the remaining 40% about half are engaged in petty trading, rural crafts or other low productivity employment.

Rural development thus has as its target population the vast majority of the people of this country. It is therefore not a mere platitude to emphasize it. It is a necessity forced upon us by the capital and occupational distribution of our population. To identify the rural areas as a major target for development is to recognise the necessity for guiding development in such a way as to benefit the bulk of the people and not merely a select few.

It is for such concerns that the Institute embarked upon the Awudomie Rural Development Project, in the hope that the lessons learnt from the project may be a guide for a rural development programme on a national scale.

In view of this objective, it is necessary that the project must be constantly evaluated. Unfortunately, the resources, both in human and material terms, at the disposal of the executors do not make this possible. It is therefore helpful that Miss Jette Bukh has found time, in addition to her own original programme, to make an evaluation of the Project. The people who are actually carrying out the project may not agree with all her findings and the premise on which



she bases her conclusions, because of their practical experience on the job. Nevertheless some of her findings with regard to the reaction of some of the participants make the project look encouraging and suggest some useful line of action to be followed.

Miss Bukh's evaluation is not the first the project has had. The writer of this foreword has submitted an evaluation report based on reports of the officers in charge of the programme and on a few visits to the field. The advantage of Miss Bukh's evaluation lies in the fact that she has actually lived in the Awudome area for a reasonable length of time and has interviewed some of the participants, even though she herself admits she interviewed only a section of the group, and from Tsito alone. Probably participants from other localities may give a different picture.

In view of the experimental nature of the project and the use expected to be made of the experience gained from it, no amount of evaluation can be said to be too much. As John Kenneth Galbraith remarks in the opening paragraph of his book, Economic Development, "One of the general amiable idiosyncrasies of man is his ability to expend a great deal of effort without much inquiry as to the end result".

The Institute, the officers in charge of the project and Miss Bukh can be congratulated for working together to avoid such a pitfall. It is hoped that such evaluation will be a regular feature of the project so long as it lasts and the lessons learnt will come in useful for the enormous task of rural development yet to be carried out in the country.

J. OPARE-ABETIA

Legon

7th December 1973.

## The Aims

The aims of the Awudome Rural Development Project (A.R.D.P.) are described in the University Calender, 1972, as follows:

to help farming groups as well as individual farmers to overcome the obstacles they meet, to introduce improved farming methods and to develop rural crafts. Three small workshops will also be established to provide the beginnings of a village technology. The aim is to use adult education to help the people realise better living standards for themselves and thus contribute to general national advancement.

The project was originally intended as an experiment in adult education in a new field: rural development. On the experiences of this experiment the Institute could plan similar projects in other parts of Ghana. The Institute has been very much concerned with aspects of rural development during recent years, expressing the Ghanaian recognition of the importance of rural development as a basis for national development. This has been expressed through some of the subjects taught by the Institute. In fact, the 23rd Annual New Year School in 1971 was entirely devoted to this subject.

There were two reasons for choosing Awudome for this new experiment. First, there was the existence of the Adult College in Tsito, which provided a suitable base for the project. Secondly, the people there had hitherto shown a pioneering spirit and a willingness to support the work of the Institute.

The scope of the project was very wide and almost all economic aspects of the society were to be included in it. In this way, it was directed not towards one receiver-group but many different groups.

## The Means of Achieving the Aims

The aims of the project were to be achieved through four inter-related programmes:

1. General or Liberal Adult Education
2. Agricultural Extension
3. Village Technology
4. Extension Work among Women

The only part of the project which has been implemented so far is that concerning the agricultural extension programme, and my description will therefore concentrate on that part. The immediate objectives of this programme were expressed by J. Opare-Abetia, as designed

to improve farming techniques and knowledge for better yields, and to demonstrate that with drive, initiative, hard work and willingness to venture, farming can be economically rewarding. (My own emphasis.)

The agriculture extension programme was to be carried out through the following proposed channels:

teaching  
discussions  
demonstrations  
assistance  
experimentations,

(Ref: J. O-A. "A.R.D.P."  
1970, p.7.)

and it materialised into two activities:

the Demonstration Farm (D.F.)  
the One-Day Schools (O.D.S.)

# 1. The Demonstration Farm

The Demonstration Farm is situated five miles from Tsito, on the main road to Ho. It is now entering its fifth season (it was started in Minor Season 1971).

## Crops Grown:

Major 72:	Hybrid maize	-- 2 acres
	Local maize	-- $\frac{1}{2}$ acre
	Tomato experiment	-- $\frac{1}{9}$ acre
	Cassava from Minor 71	-- 1 acre
	Plantain " " "	-- 2 acres
	Paw-paw - 80 trees	
	Pineapple	
Minor 72:	Hybrid Maize	-- $3\frac{1}{2}$ acres
	Diacol/Cassava	-- $6\frac{1}{2}$ acres
	Vegetables	-- $\frac{1}{9}$ acre
	Paw-paw, pineapple and plantain.	
Major 73:	Hybrid maize	-- $4\frac{1}{2}$ acres
	Local maize	-- 2 acres
	Vegetables	$\frac{3}{4}$ acre
	Paw-paw, 80+176, pineapple 504, and plantain.	

The farm is open to any visitor, but relatively few farmers go there. This is due both to the situation of the farm and to the general opinion that one has to be invited to go there. There is also the fact that the farm does not always have something to offer the visitor, for example the fact that seedlings are not always available for people to buy. In addition, there is little knowledge in the area about what the farm is doing, and for what purpose, thereby leading to little interest in going there. Since no record is kept of daily visitors to the farm, it is not possible to obtain figures for such visits.

## 2. The One-Day Schools

To get an impression of the extent to which the farmers who have participated in a one-day school have benefitted from what they have learned, interviews were conducted by the author of this paper with those farmers from Tsito who had participated in one in December 1972.

Once a year each of the villages participating in the project has been invited to participate in a One-Day School. In November 1973 the author of this paper participated in the first of this year's one-day schools. Participants were: the Farm Manager, Mr. Avotri; the Resident Tutor, Mr. P.Y. Kuivi; 4 Farm Trainees, the Technical Officer from Tsito, and 22 farmers.

Subjects taught:

- Identification of soil

- What type of crop on what type of soil

- Manuring

- Fertilizer-application demonstrated on yams, maize-seeds and plants, cassava and vegetables

- Extracting of seeds from fresh pepper and garden-eggs

- Advice to plant in pure stand

- Profitability-calculation for maize, cassava and pineapple

- Explanation of how to get loans from the Agricultural Development Bank, and how to get cutlasses.

The show which took place at the Demonstration Farm was very well organised. Chairs were placed in a circle under the shade, and in front products from the farm were displayed. These included maize, plantain, bananas, pineapple, paw-paw, pepper, okro, egg-plants, garden-eggs and sweet pepper.

The teaching went on for more than two hours; the Farm Manager was a very good educationalist and explained things very well. Also the Resident Tutor took part in the teaching, and when the discussion concerned loans and cutlasses, the Technical Officer explained the procedure of the Extension Service. After refreshments, the farmers were shown the vegetable nursery.

As can be seen, many things were introduced, and it might have been difficult for the farmers to remember it all.

## Findings from Questionnaire on One-day School

For the One-Day School in December 1972 a list of the thirty-two participants registered in Tsito was obtained. Of these thirty-two, twenty-two were available for interview, five females and seventeen males. Five of the people listed were not traceable, one refused to give information because he was so annoyed with the Institute about the case of another project, a communal animal pen. The remaining four, though invited to participate, did not do so.

The women farmers participating were aged between thirty-five and fifty-five; they all had small farms, mainly growing cassava though three were also doing vegetables. The sizes of their farms varied between 0.8 and 2.5 acres. Four of the women had no school education, one had reached a P.2. level. One had learned sewing and bread-baking. Four of them were doing petty-trading as a secondary occupation.

The group of male-farmers participating might be divided as follows:

- 2 young (less than 35) farmers, farming only as their secondary occupation, using small acreages (0.4 and 2.5);
  - 1 old, big farmer, a family head, farming 26 acres
  - 14 farmers aged between 41 and 65, having different sized farms:
    - 5 using from 2.5 to 5 acres
    - 6 using from 7.5 to 8.5 acres
    - 2 using 13 acres each
    - 1 using 18.5 acres;
- for only one of the fourteen was farming a secondary occupation.

Eight of the males had had no school education, two had reached P.4, one M.1, and M.2.... Only three of them had not got any other training; the rest had all learned various skills, such as traditional house construction or carpentry. Five of them at present have no other occupation apart from farming. Two are carpenters and one gives masonry as a main occupation; and for these, farming is only a secondary occupation. The remaining nine have additional occupations: traditional house construction (3), carpentry (1), driving (1), shoe-repairing (1), drum-carving (1), and fish-trading (1).

Taken against the whole group of farmers in Tsito, this one represented a very broad section, covering the main different types of farmers.

#### Recruitment for the One-Day School

Sixteen were invited by the staff of the demonstration farm. Four were elected by the chief or by clan-heads, and two joined through their own initiative.

#### Contact with the Demonstration-Farm before and after the One-Day School

None of the women had been there before, none of them since; all gave as their reason that they had not been invited again. Three of the men had been there before, none of them since.

##### Reasons:

- 6 mentioned that they had not been invited again;
- 4 said they had nothing to go there for, since there were no seedlings available;
- 2 said they had no need to go there any more, because they were satisfied with what they had already learnt.



2 mentioned lack of time;

1 was annoyed because they were promised cutlasses but these never materialised. For this reason he did not go there again,

2 gave no reasons.

Another six people in Tsito (they were in the sample interviewed intensively for the general survey of the area) had participated in the one-day school in December 1972, but for some unknown reason their names were not in the list of participants obtained from the manager. Their opinions are, together with those of three other farmers who had visited the farm on occasion, included in the section about general opinion and recommendations given by the farmers.

In the interviewing the participants were asked to mention what they had learned from the one-day school and to give their opinion about it. Everyone was specifically asked about the use of fertilizer and Agric' corn (hybrid maize). The results of the questionnaires are shown in Table I.

TABLE I

## EFFECT OF ODS ON THE ADOPTION OF NEW AGRICULTURAL TECHNIQUES

Technique	Mentioned		Use b&s		Use after No.	Total	Absolute + %	Relative + %	Increase of those not use % (1)
	No.	%	No	%					
I Fertilizer	22	100.	3*	13.6	1	4	4.5	33.1	5.2
Agric. Corn	22	100.	1	4.5	1	2	4.5	100.0	4.7
II Veget. grow	17	77.	6*	35.0	6	12	36.5	100.0	4.7
Seeds	8	36.4	2	25.0	3	5	37.5	150.0	54.5
Planting	12	54.5	4*	33.3	4	8	33.5	100.0	50.0
Storage	6	27.3	0*	0.0	2	2	33.5	-	33.5
III Soil & crop	2	9.0	1	50.0	1	2	50.0	100.0	100.0
Rotation	1	4.5	0	0.0	1	1	100.0	-	100.0
Irrigation	1	4.5	0	0.0	1	1	100.0	-	100.0
Farm Org.	1	4.5	0	0.0	1	1	100.0	-	100.0
Cooperatives	1	0.0	1	0.0	0	0	0.0	0.0	0.0

\*Use before and since excludes those farmers who used the technique before ODS but discontinued use because of factors not directly related to the effectiveness of ODS. These cases are:

Fertilizer - 1 discontinued use because of inability to buy fertilizer;

Veget. grow - 1 discontinued use because of inability to buy chemicals;

Planting - discontinued use because of belief in its ineffectiveness;

Storage - 1 discontinued use because of insufficient quantity of maize.

- (1) Increase in use as % of those farmers not using the technique before the ODS.

### Explanatory Note on Table I.

The table has to be analysed in three sections. Section I differs from sections II and III on two points. All those interviewed were directly asked about the two innovations in section I, while the responses grouped under section II and III came out when the participants were asked to mention what they had learned.

This methodological difference explain partly the difference between the increase-figures in section I and those in II and III. An additional explanation of this difference, is the qualitative difference between the type of innovations mentioned in I compared to those in II and III. The differences may be a result of the relative degree of change asked of the farmers. Fertilizing and agric. corn are complete innovations, while the techniques mentioned in II and III are improvements of already existing practices. Section III is only added for the sake of clearness and completeness, since the figures are so insignificantly low that they cannot tell anything.

It might have been more useful for comparative reasons to have used the method from section I also for the rest of the subjects. But the rationale for letting people themselves mention the subjects taught, was the idea that it would give an extra hint on the impact of the project, by testing how much of what was taught could be remembered by the participants. This method was chosen also from the point of view, that since it could be expected that people would remember best those things which they had found useful and applicable to their own situation, then it would also work out as a priority list of the subjects taught.

Fertilizer:

Females: None of them has started to use it since the O.D.S. One had tried it once before, with good results, but could not afford to buy it again.

Males: Three had used it before the O.D.S. and are still using it. One tried it after the O.D.S. but the rain failed, so he cannot judge the effect.

Reasons for not trying to use fertilizer:

- 9 said that the land was already fertile;
- 4 said that they had no money to buy it;
- 1 said that it was no good;
- 1 said he was too lazy;
- 2 gave no reasons.

'Agric' Corn:

Females: None had tried it before the O.D.S. and none after it.

Males: One had used it before, and is still doing so. One has tried it since - for the first time this year, and so has no experience of it yet. He is afraid he will not get a market for it.

Reasons for not trying to grow agric. corn:

- 8 said they did not like it and that the local was better (see p.11);
- 5 said there was no market for it;
- 2 said they could not get seeds;
- 2 gave general excuses;
- 2 did not give any reason;
- 1 did not give any information.

The different subjects mentioned:

Vegetable growing:

This was mentioned by seventeen of the participants.  
Four had grown it neither before nor after the O.D.S.

Reasons:

- 2 said they were going to try;
- 1 said he had no cutlass and so nothing to work with;
- 1 said he did not grow vegetables.

One had grown it before the O.D.S. but not since.

Reason: no money for chemicals.

Six had grown it before and since the O.D.S.

Experience: all were satisfied with the methods taught at the O.D.S.

Six had grown it only since the O.D.S.

Experience:

- 4 satisfied with results;
- 1 failed because of lack of rainfall;
- 1 said it was only good for large-scale growers.

Extracting, preserving and nursing seeds:-

This was mentioned by eight of the participants.  
Two had used it neither before nor since the O.D.S.

- Reasons: 1 does not grow vegetables;  
1 is going to try.

One used it before the O.D.S. but not since, but says he is going to try again.

Two have used it before and since the O.D.S.

Experience:

- 2 satisfied with results.

Three have used it only since the O.D.S.

- Experience: 2 satisfied with results;  
1 does not know yet.

Planting methods: lines, spacing, planting date:

This was mentioned by twelve of the participants.  
Three had used it neither before nor since the O.D.S.

Reasons: 1 said it was too hilly in the area  
for lines;  
2 have not tried, though one of them  
plans to.

One used it before but not since the O.D.S.

Reason: felt that it made no difference.

Four had used it before and since the O.D.S.

Experience: All were satisfied.

Four had used it only since the O.D.S.

Experience:

3 satisfied with results;

1 said it was of no use;

One mentioned that the planting date was not  
a good method.

The use of pesticides was mentioned by one. He started  
using it only after the O.D.S. and was satisfied with the  
result.

Storage:

This was mentioned by six of the participants.

Three had not used it before nor since the O.D.S.

Reason: they all said they did not have enough maize.

One had used it before but not since the O.D.S.

Reason: he also did not have enough maize.

Two started using it since the O.D.S.

Experience: both satisfied.

Soil and Crop:

This was mentioned by two, both of whom had made  
use of it and were satisfied.

Rotation:

This was mentioned by one; he had used it and was  
satisfied.

Advice against Mixed Cropping:

This was mentioned by one, who did not practice it himself since he felt it was only for farmers with large acreages.

Irrigation:

This was mentioned by one, who had used it since the O.D.S. and was satisfied with the result.

Organisation of daily work on the farm:

This was mentioned by one, who had taken the advice and was satisfied with the results.

Co-operatives:

This was mentioned by one, who said he had not made use of it since he did not have sufficient land.

General Opinion:

The general opinions of the thirty-one farmers consulted and their recommendations concerning the demonstration farm and other activities related to the A.R.D.P., was asked for:

- 15 said that they were pleased with the work of the Demonstration Farm and with what they had learned there.
- 3 said they could not use the experience gained from the farm because the farm was an institution with paid labour, and because of this could do things the farmers could never do.
- 10 had critical comments to make concerning different agronomic aspects of the farming there. Four mentioned that they thought the wrong crops had been planted on the wrong types of land. Four said the planting date was inefficient, and three said the farm had been made too large for the amount of labour available, thereby making the farm too bushy.



- 1 stated that he could not learn anything from the farm, because there were no records where they could see how much labour and money had been invested, for how much the products had been sold, or to show the profitability of the different crops.
- 3 said that what the farm project was doing was a waste, and they did not admire it at all.
- 1 said that the situation of the farm was wrong, that it was too far away.

Recommendations:

- 9 said they would like to have visits to their own farms, to receive advice and demonstration on the spot.
- 4 said they would like to have more One-Day Schools.
- 4 wished they were invited more often to visit the farm. In addition to what it is doing now, the farm should demonstrate the growing of:

Shallot and beans	--2
cotton and sugar cane	--1
sweet potatoes	--1
oil palm and citrus	--1
more about garden eggs	
and tomatoes	--2

Two considered that traditional methods could be developed, and another thought that a comparative study between old methods and new could be made.

One felt that hill-side farming should be demonstrated.

The farm should also teach:

marketing of produce	--1
saving and investment of money	--1.

They should supply the farms with:

Seedlings	--2
cutlasses and other tools	--4
loans in kind	--1
loan in cash	--2

One said they should establish an irrigation scheme for the farmers, and another said they should turn the project into an Agricultural Training Centre.

### Evaluating the Input

For an evaluation of the effectiveness of the different innovations which the Demonstration Farm and the One-Day Schools are trying to implement, they must be seen as to whether they work towards the aim of the Agriculture Extension Programme. Whether the methods used are sufficient for reaching this aim must also be evaluated. To this end it would be important to test them in the light of certain preconditions:

- (1) that they are well tested as suitable and profitable to the conditions in the area;
- (2) that they have a ready receiver-group with the possibility of implementing them;
- (3) that the necessary supplies and equipment for their implementation are available for the local farmers.

### Summary of some of the Innovations Attempted

- A. Encouragement to use mechanised ploughing;
  - B. Vegetable growing, nursing, etc.;
  - C. General use of fertilizer;
  - D. Growing of hybrid maize;
  - E. General agronomic education, including:  
correct spacing of crops, planting in lines,  
crop rotation, soil and crop, correct  
planting time, planting in pure stand, etc.
- A. Encouragement to use mechanised Ploughing:  
Mechanised ploughing seems to be a good and profitable investment, since it cuts the costs of labour, especially since this is in short supply in peak periods. Yet it meets with two problems in the area. The first is that the bulk of the land is not suitable for, and cannot be reached by the tractor. The next is the scarcity of available tractor service in the region. Farmers have to

wait as long as several months to get their fields ploughed - which means that they miss the correct planting time and so run a high risk of failure for the crops.

B. Vegetable growing, nursing etc.

No doubt it is useful for the farmer to learn vegetable growing, especially if he also grows for his own cooking-pot. This will improve his nutritional standard, by the addition of vitamins ... and this aspect should be underlined in the teaching. However, the growing of vegetables on a larger scale meets with one serious problem, supposing that land and labour are available; and that is, the marketing of the produce. Vegetables cannot be stored, they must be sold as they are harvested. At present it does not seem possible to market large amounts of vegetables at the fifth-day market at Tsito, since it is not a very active place for the exchange of commodities. This is due to the bad condition of the market-place, which attracts only a few sellers, and thereby, few buyers. Travel to other markets is time-consuming and made difficult because of insufficient transport facilities. 17% of the men and 43% of the women are already growing vegetables. It can be difficult to get seeds and seedlings locally, so the D.F. could fulfil an important service by making these available to the farmers.

C. General Use of Fertilizer:

This type of innovation is recommended as it is relatively easy to apply to everybody, and fertilizer used in such a way that it creates a considerable increase in yield with only a small extra investment of labour and capital leads to increased productivity.

But one must not forget that effective application of fertiliser depends on the field being weeded carefully, to prevent the weeds consuming the fertiliser. The farmer will here have to take into account both extra labour for the application and, in most cases, more labour than used to be required before.

Before the advice to use fertilisers is given, it must be ensured that the necessary labour is available, and also that the increase in yield be held against the extra investment of labour and capital.

It must also be noted that not all land needs fertilizer, for example, virgin forest land. It is therefore important that advice on the use of fertilizer is given on the spot, judging the necessity and quantity of fertilizer needed on the land in question - and eventually to demonstrate in a corner of the farmers own field the advantages of the use of fertilizer.

But whenever it is possible, the use of manure from livestock has to be encouraged even more, since it gives a richer fertilizing of the soil, and if the farmer already has livestock it will also save him money. Lack of money is mentioned by many farmers as the main reason for not using it. 10% of the farmers in my sample-survey were at present using fertilizer, another 10% had tried it before but were not using it this season, half of them because they were not satisfied with what they had experienced.

#### D. Growing of hybrid maize:

This can be a productivity increasing investment, but to achieve real success, that is, to give higher yields than the local type, it must be viewed in conjunction with fertilization. The same problems as those mentioned under the previous section will therefore apply.

There are more important problems arising from the growth of hybrid maize. People do not like to eat it, and that places it in the category of the pure cash crops. This means that only farmers with a planned cash-crop economy will plan to grow it, not the small farmers who primarily grow for their own consumption and then sell the excess. For those who have grown it, the biggest problem has been the lack of a market. It is very difficult to market it locally, since the kenkey-makers will not buy it. Because of this the price has been considerably less than that fetched by the local type. The fixed minimum price which the government has offered has also been too low, and a detailed calculation of its profitability seems, therefore, advisable. Some of the farmers have found a way out of this, by cross-breeding the hybrid with the local type. This still gives a higher yield. It can then be sold as the local type for a good price. The Farm could look into this, to develop the best way of doing it.

Hybrid maize needs a different storage method than that used for the local type, and chemicals have to be used. This is an extra cost which also has to be included when the profitability of the crop is calculated. Another problem is that it is not always easy to get the seeds locally.

In the sample-survey, of forty farmers, only three of them were growing hybrid maize, and two of them cross-bred with local type. Another four of them were this year growing a few cobs for the first time, to see how it would do.

#### E. General Agronomic Education

This is the method through which advice can be extended to the farmers, and more knowledge about the aspects of farming being taught, will always be of value to the farmers. Greater knowledge about

agronomy can diminish the risks when trying new farming techniques. It can even open the possibility for the farmer to experiment on his own initiative. However, only a few farmers are able to experiment since taking risks of any kind can endanger the livelihood of him and his family.

More work needs to be done in this field: much discussion is necessary about the comparative advantages and disadvantages of traditional and 'modern' farming methods. Far too little has been done in the field of developing methods of farming on the basis of traditional ones, and the demonstration farm could do valuable work in this field.

Within the area is a highly varied micro-climate and a wide range of soil-type. It is therefore difficult to find any general approach applicable to the whole area on those questions. Local knowledge, built on generations of experience on a particular piece of land, should be taken advantage of whenever available.

## Summary of the Evaluation

In this evaluation of the success of the innovations introduced by the project, the question of whether they have any influence on the major obstacles to development will not be discussed. They are bottlenecks not necessarily related directly to the extension aspects, but rather to the producer's relation to the means of production. This comprises..... the farmers access to what type of land in what form and in what amount.....his available labour resources.....his investment capacity.....as well as his type of production, his risk margin and his know-how. This is, as I mentioned earlier, due to the fact that the data from the sample-survey has not been processed as yet. The results from this survey will, hopefully, show what exactly are the bottlenecks for the different types of farmers in the area.

Another reason for not trying to evaluate the project's possibility of creating what could be called an ideal basis for development through removing the major bottlenecks, is that this would only be possible through structural changes in the nature of the society. To achieve this aim, which originally was embedded in the plans for the project as a community development programme, much more serious attention must be given to the socio-economic context in which the project operates. The evaluation is therefore framed from the form it has actually taken, and the aims it thereby seeks to achieve.

By implementing only the Agricultural Extension Programme the project shifted at an early stage away from being a community development programme to being only an Agricultural Development Programme. The aim has been cited on p.5 that is, to experiment in adult education through demonstration of the profitability of certain innovations.

### Adult Education

When the programme was planned, the following personnel was suggested:

1. An agricultural specialist to be in charge of the agricultural aspect of the programme.
2. Farm Manager to be under the agricultural specialist to run demonstration farms and assist the agricultural specialist in demonstration exercises.
3. Four college labourers to maintain the demonstration farms and carry out other duties in connection with the project.

(J.O.A. 1970 p.8)

Since only the farm manager and the trainees, plus some farm labourers were employed, it has been very difficult for the farm staff to cope with both the daily work with the farm, and at the same time continuously working out courses with the farmers. The educational aspects were supposed to materialise not only through occasional one-day schools but also through close and continuously consultative and advisory service for the farmers. This should be not only in the agronomic field, but also in questions of how to get loans, how to form co-operatives etc. Because of lack of staff, such a continuous operation has never been possible.

The college was supposed to play the role of a meeting centre for the participants, it being the place where they could go for, "consultation, meetings, conferences, courses, and supply of material".

(J.O-A. 1970. p.8)

But it seems that not much time has been allocated for the staff of the college to work on the programme: this would have made it possible for them to tie the activities of the college with those of the farm. The links between the college and the farm have always been very thin, due to the fact that the staff have not been working as a team, as described in J.O-A's Review Paper.



### Demonstration Farming

The experience gained from an evaluation of extension service in Tanzania gave rise to the following conclusion about demonstration-farming and the possibility of its having any propagating effect. Viz:

"..... for a satisfactory diffusion of new knowledge it is necessary that farmers can identify themselves with the person on whose field these demonstrations are held." (1)

This seems to be one of the key problems for the demonstration farm, that it is an artificial set-up, with working conditions very different from those of the local farmers. This is mentioned by the farmers themselves (p.8). That the character of the farm is that of a university institution with paid labour makes it impossible for them to identify their own situation with that of the demonstration farm.

Another problem is how to make effective demonstrations. It is important when demonstrating a new method that it is shown side by side with the old, so that the farmer himself can compare and see the relative results. For example, if one wants to demonstrate the use of fertilizer, an area of unfertilised and an area of fertilised crops should be grown side by side on the same plot. This principle has been accepted on the farm, and taking this year's maize as a case in point, the principle was applied on the two acres of local maize, where half of it was fertilized and the other half not.

The illustrative aspect is very important and the results must be impressive enough to convince farmers of their value. Yet even there, demonstration is not enough to make people take up new methods. It is a long step from admiring other people's success, to trying to actually copy it.

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<sup>1</sup> Luning and Venema: Rungwe Agro-Socio-Economic Research Technical paper No.1. Sept. 1969. Africa-Studiecentrum, Leyden. p.21.

There is generally very little knowledge in the area about the activities of the farm. Products from it are not sold in the local markets, so people cannot see what they have grown. No public announcements are made about the current activities there, for example, telling when seedlings are available. This is another barrier to achieving a successful reputation.

However, the most serious obstacle for an effective demonstration is the lack of illustrative record-keeping, showing the results of the different activities on the farm in terms of input/output calculations. To be able to convince, that "with drive, initiative, hard work and willingness to venture, farming can be economically rewarding" (p.6), the farm itself must exemplify that and show proof of it. This can only be done through demonstration and documentation showing that the "new inputs are both technically and economically attractive with a sufficient margin to discount for risks and uncertainties and for a possible inaccurate transfer of new knowledge".<sup>2</sup>

As underlined in J. Opare-Abetia's Review paper, the experimental character of the programme makes a current evaluation of the results achieved, imperative, and this is only possible on the basis of proper record-keeping of all aspects of the activities.

#### To sum up:

The three preconditions which had to be complied with in order to make it possible for the project to achieve its aims (see p.21) cannot be said to have been fulfilled, before the innovations were introduced. The scale of operations seems inadequate also to realise the objective.

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<sup>2</sup>ibid. p.23

## Recommendations:

The first problem which has to be solved is that of staff. Either one more person has to be employed as originally planned, or the staff of the college must be given the possibility of playing a more active role in the current organisation of the programme. Also the trainees could be more involved in the different educational tasks.

It is very important that the activities of the project do not exceed the limits set by the existing resources, especially the available man-power. That principle should be followed both in connection with the size of the farm and in the number of activities with which it should be involved. Consequently, priorities must be assessed and choices made.

## The Organisation of the Agricultural Programme's Different Activities

For a more organised and thereby more effective presentation of the activities of the farm, it seems to be useful to divide them into:

- (1) A small demonstration farm
- (2) Different service activities
- (3) Commercial farming

### 1. A small demonstration farm

This is a small demonstration farm of the size of an ordinary family farm to which the majority of farmers can relate. If mixed farming is carried on, with a few sheep, goats and fowls, it could help to illustrate the advantages of manuring. Correct methods of farming could show how much there is to be gained through small investments and innovations. It is important that proper records are kept, to show the exact cost of labour and money invested.....also to illustrate the improved methods, neighbouring plots should be kept without manure, and by traditional methods.

## 2. Different service activities

There are three fields in which the farm could fulfil important service functions:

- (a) current advisory help for a selected group of farmers
- (b) testing different extension aspects
- (c) making seeds, seedlings and tools available.

(a) Instead of extensive work with a large group of farmers, it seems to be much more effective to select a small group which can be followed intensively for at least a year in order to step in with help and advice when necessary. Concentrating on a smaller group of farmers also makes it possible to visit their farms regularly; on the spot advice can be given as well as demonstrations of how they can improve their farming methods. It would be hoped that successes achieved with these few farmers could serve as an example to encourage other farmers to follow their methods.

(b) The farm could do valuable work through an expanded testing service for soil, local weather data and to make technical information available for the farmers to reduce uncertainties. It could also help to spread knowledge of existing extension offers in the area, and even try to evaluate their quality under various circumstances.

(c) It would be an important task for the farm to make new types of seeds and different sorts of seedlings available. It is obvious that there is a scarcity of farm tools, but the difficulties attending the distribution of such tools as cutlasses, might make it inadvisable to become involved in such a project.

## 3. Commercial Farming

The main type of farming on which the farm has concentrated has been that of commercialised agriculture. This

activity is commendable not only because it serves as a means to finance the other activities of the farm, but also because it demonstrates the best ways of carrying out commercial agriculture. To achieve this end, a careful record-keeping must accompany all aspects of the work.

And .....

To spread the knowledge of the activities of the project, local channels of communication such as the gong-gong, public notices, meetings and word of mouth could be used. Selling the products on the local markets would also show people the results of what the farm is doing. It must be made publicly known that the farm always welcomes visitors, since many people who have wanted to go there have been held back because they thought that they had to be invited.

It is also important that the local extension staff gets involved in the current running of the project, for mutual advice, inspiration and flow of ideas, as well as for the spreading of knowledge about the project through the extension service. This collaboration should also ensure that there is no wasteful duplication of activities by the two institutions.

### Inbuilt Evaluation-System

An inbuilt evaluation-system should be a practical instrument for the Institute. It could control and enable changes to be made in the plans and strategies, when implementing the aim of the project. As inbuilt in the project it should work continuously, reporting all steps taken, in order to make it possible at every stage to evaluate the progress of the work.

Evaluations are expensive, since they involve work on record-keeping and analysis. But the advantages of checking the development of the project at all stages, and the ability to draw on the experience should in any case justify the use of resources for that purpose - especially since the project has the character of an experimental university project.

To ensure the success of an inbuilt evaluation-system a very specific procedure must be worked out. It must be made clear who shall be responsible for its administration, and which factors can be used for qualified measurements if the analysis is not to be based only on a input/output calculation but approached in a more qualitative way.

### The Project Level

If the work of the farm is going to be organised as suggested on p.30 (points 1 - 3), the following recording systems will be necessary:

- (1) For the small demonstration farm, monthly reports on its activities must be sent to the Institute: how many working hours have been spent there on what activities, how much money spent, and what has been produced.
- (2) For the different service activities:
  - (a) The selected group of farmers must be registered, with date about their personal history, present activities and production. It must be organized in a file-system, where information can be added about what help and advice have been given to them, and how they have responded to it.
  - (b) Information about the farm's testing service, when the results materialize must be published in reports, copies of which must be sent to the Institute.
  - (c) In the monthly report to the Institute, it must be mentioned what type of farmers and how many, have been visiting the farm, and for what purpose, and what service has been given, e.g. in form of seeds, seedlings, tools or other type of help.
- (3) At the end of each season a report must be worked out showing the net profit from the commercial production.

The farm manager must be responsible for seeing that the reports and files are prepared and copies sent to the Institute, to cover all aspects mentioned under points 1 - 3.

### The Institute Level

At the Institute one person must be made responsible for carrying out the current analyses of the reports coming in.

- ad. 1) The activities of the small demonstration farm must be analysed in the same way as the activities of a family farm, calculating working hours spent in terms of family-labour and comparing this to an equivalent family-consumption, in order to estimate the eventual surplus.
- ad. 2) a. Through the filing system for the selected group of farmers it is possible to follow their relative progress or lack of progress, and to give immediate remedies for problems arising.
- b and c It can be useful for the farm manager to get current response and help from the Institute on those activities.
- ad. 3) On the basis of such calculations, it is possible to make an immediate evaluation of the success of the commercial production. A budget for all the activities on the farm has to be built also on this information.

### The Committee Level

The Committee is supposed to meet once a term. This means that a rational expectation of the amount that can be

done in only three meetings a year must be adopted. A summarizing report from the person responsible at the Institute, must therefore be given to its members before the meetings. This report should draw up points on which decisions have to be taken, i.e. any change in strategy.

It will be very important for the purpose of making this evaluation-system a success, that acting on the information from the farm manager's reports, the person responsible at the Institute immediately responds and ensures implementation at the project level.

Other areas in which the project could be usefully expanded.

The original plans for the project as a community development programme contained a very valuable aspect, namely, rural technology. Built on the concept of 'improvement' and not necessarily 'transformation' the introduction of soft-intermediate technology could provide opportunities for the whole community, if, for example, different types of processing machinery were established as community facilities.

The individual farmer should be encouraged to use simple technology to increase his productivity and also to cooperate with other farmers for the procurement of shelling-machines for the maize, grating machines for the cassava, oil-pressers for the palm-nuts, etc.

The possibility of starting local production of the machinery itself must be explored. Simple farm tools such as cutlasses and hoes are already being processed locally.

Ref: J.O.-A. 1970 =

Joe Opare-Abetia: "Awudome Rural Development Project."

J.O.-A 1973 =

Joe Opare-Abetia: "Review of the Awudome Rural Development Project."





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